# PONYL 4006G25

### Polyamide 6

POLYROCKS CHEMICAL CO., LTD

#### Message:

PONYL-4006G(+) are alkali-free environmental glass fiber reinforced PA6 material. They have the characteristics of wear resistance, heat resistance, oil resistance and chemical resistance; and also the characteristics of low equilibrium water absorption, small mould shrinkage, good dimensional stability and superior mechanism strength. 4006G(+) pass UL test and meet the requirements of RoHS, SVHC, PFOS&PFOA, 16P, Halogen-free and PAHs.

Features  Good Chemical Resistance Good Dimensional Stability Good Wear Resistance Halogen Free Low to No Water Absorption Medium Heat Resistance Oil Resistant  Uses  Automotive Applications Engineered Applications Fingineered Applications Physical Nominal Value Unit Test Method Specific Gravity 1,21 g/cm² ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0,20 to 0,80 % ASTM D955  Water Absorption (Equilibrium) 2,1 to 2,5 % ASTM D956  Mechanical Nominal Value Unit Test Method Tensile Elongation (Break) 12 % ASTM D638 Tensile Elongation (Break) 10 WPa ASTM D638 Tensile Elongation (Break) 10 WPa ASTM D638 Tensile Elongation (Break) 10 WPa ASTM D648 Tensile Elongation (Break) 10 Wominal Value Unit Test Method Unit Test Method Comparative Under Load (1.8 WPa Unit Test Method Comparative Tracking Index S75 V IEC 60112	General Information			
Good Dimensional Stability Good Wear Resistance Halogen Free Low to No Water Absorption Medium Heat Resistance Oil Resistant  Uses Automotive Applications Engineered Applications Engineered Applications  Physical Nominal Value Unit Test Method Specific Gravity 131 g/cm² ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Mechanical Nominal Value Unit Test Method Tensile Strength (Yield) 160 MPa ASTM D638 Tensile Elongation (Break) 12 % ASTM D958  Flexural Modulus 6800 MPa ASTM D638 Flexural Modulus 6800 MPa ASTM D790 Flexural Strength 100 MPa ASTM D790 Flexural Strength Nominal Value Unit Test Method Impact Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa ASTM D790  Impact Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) Vinit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) Vinit Test Method Deflectical Nominal Value Unit Test Method Deflectical Nominal Value Unit Test Method Deflectical Nominal Value Unit Test Method Comparative Tracking Index 575 V IEC 60112	Filler / Reinforcement	Glass Fiber,25% Filler by Weight		
Good Wear Resistance Halogen Free Low to No Water Absorption Medium Heat Resistance Oil Resistant  Uses  Automotive Applications Engineered Applications Engineered Applications  Physical Nominal Value Unit Test Method Specific Gravity 13 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D955  Water Absorption (Equilibrium) 1.50 MPa ASTM D638  Tensile Elongation (Break) 1.2 % ASTM D638  Tensile Elongation (Break) 1.2 % ASTM D638  Flexural Modulus 6800 MPa ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Impact Nominal Value Unit Test Method  Deflection (Break) 1.0 MPa ASTM D790  Impact Nominal Value Unit Test Method  Deflection Impact Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Features	Good Chemical Resistance		
Halogen Free Low to No Water Absorption Medium Heat Resistance Oil Resistant  Uses Automotive Applications Engineered Applications  Physical Nominal Value Unit Test Method Specific Gravity 13 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Tensile Indigation (Break) 14 WPa ASTM D790  Themal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa) Nortched Izod Impact 10 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa)  MPa, ASTM D648  Electrical Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa)  MPa, ASTM D648  Electrical Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 Mpa, Unannealed)  Nominal Value Unit Test Method		Good Dimensional Stability		
Lov to No Water Absorption Medium Heat Resistance Oil Resistant  Uses  Automotive Applications Engineered Applications  Physical Nominal Value Unit Test Method Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D955  Water Absorption (Equilibrium) 160 MPa ASTM D570  Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638 Tensile Clongation (Break) 12 % ASTM D638 Flexural Modulus 6800 MPa ASTM D638 Flexural Modulus 6800 MPa ASTM D790 Flexural Strength 10 J/m ASTM D790 Impact Nominal Value Unit Test Method  Notched Izod Impact Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 "C ASTM D648 Electrical Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 10 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 17 Vin Test Method  Deflectical Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 17 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 17 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 17 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 18 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 19 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 10 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 10 Vin Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 10 Vin Test Method		Good Wear Resistance		
Medium Heat Resistance Oil Resistant  Uses  Automotive Applications  Engineered Applications  Physical  Nominal Value Unit Test Method  Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 Kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D950  Mechanical Nominal Value Unit Test Method  Test Method  Tensile Etongation (Break) 12 % ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Impact Nominal Value Unit Test Method  MPa ASTM D790  Impact Nominal Value Unit Test Method  Notiched Izod Impact Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed)  Deflection Temperature Under Load (1.8 MPa, Unannealed)  Electrical Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed)  ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112		Halogen Free		
Uses Automotive Applications Engineered Applications  Physical Nominal Value Unit Test Method Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method Tensile Strength (Vield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength Wield 100 MPa ASTM D790  Flexural Strength Vield 110 J/m ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) Unit Test Method  Deflectical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112		Low to No Water Absorption		
Uses Automotive Applications Engineered Applications  Physical Nominal Value Unit Test Method  Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength (Masser) 100 MPa ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D790  Impact Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method		Medium Heat Resistance		
Physical Nominal Value Unit Test Method  Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D570  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638  Flexural Modulus 6800 MPa ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength March MPa ASTM D790  Impact Nominal Value Unit Test Method  Notiched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method		Oil Resistant		
Physical Nominal Value Unit Test Method Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method Tensile Strength (Yield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength Yeld 110 J/m ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Uses	Automotive Applications		
Specific Gravity 1.31 g/cm³ ASTM D792  Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) 13 g/10 min ASTM D1238  Molding Shrinkage - Flow 0.20 to 0.80 % ASTM D955  Water Absorption (Equilibrium) 2.1 to 2.5 % ASTM D570  Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D790  Impact Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method		Engineered Applications		
Melt Mass-Flow Rate (MFR) (235°C/2.16 kg)         13         g/10 min         ASTM D1238           Molding Shrinkage - Flow         0.20 to 0.80         %         ASTM D955           Water Absorption (Equilibrium)         2.1 to 2.5         %         ASTM D570           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength (Yield)         160         MPa         ASTM D638           Tensile Elongation (Break)         12         %         ASTM D638           Flexural Modulus         6800         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact         110         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         207         °C         ASTM D648           Electrical         Nominal Value         Unit         Test Method           Comparative Tracking Index         575         V         IEC 60112           Flammability         Nominal Value         Unit         Test Method	Physical	Nominal Value	Unit	Test Method
kg)13g/10 minASTM D1238Molding Shrinkage - Flow0.20 to 0.80%ASTM D955Water Absorption (Equilibrium)2.1 to 2.5%ASTM D570MechanicalNominal ValueUnitTest MethodTensile Strength (Yield)160MPaASTM D638Tensile Elongation (Break)12%ASTM D638Flexural Modulus6800MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact110J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)207°CASTM D648ElectricalNominal ValueUnitTest MethodComparative Tracking Index575VIEC 60112FlammabilityNominal ValueUnitTest Method	Specific Gravity	1.31	g/cm³	ASTM D792
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Mechanical Nominal Value Unit Test Method  Tensile Strength (Yield) 160 MPa ASTM D638  Tensile Elongation (Break) 12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength 240 MPa ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Molding Shrinkage - Flow	0.20 to 0.80	%	ASTM D955
Tensile Strength (Yield) 160 MPa ASTM D638 Tensile Elongation (Break) 12 % ASTM D638 Flexural Modulus 6800 MPa ASTM D790 Flexural Strength 240 MPa ASTM D790 Impact Nominal Value Unit Test Method Notched Izod Impact 110 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648 Electrical Nominal Value Unit Test Method Comparative Tracking Index 575 V IEC 60112 Flammability Nominal Value Unit Test Method	Water Absorption (Equilibrium)	2.1 to 2.5	%	ASTM D570
Tensile Elongation (Break)  12 % ASTM D638  Flexural Modulus 6800 MPa ASTM D790  Flexural Strength 240 MPa ASTM D790  Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus 6800 MPa ASTM D790 Flexural Strength 240 MPa ASTM D790 Impact Nominal Value Unit Test Method Notched Izod Impact 110 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648 Electrical Nominal Value Unit Test Method Comparative Tracking Index 575 V IEC 60112 Flammability Nominal Value Unit Test Method	Tensile Strength (Yield)	160	MPa	ASTM D638
Flexural Strength 240 MPa ASTM D790 Impact Nominal Value Unit Test Method Notched Izod Impact 110 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648 Electrical Nominal Value Unit Test Method Comparative Tracking Index 575 V IEC 60112 Flammability Nominal Value Unit Test Method	Tensile Elongation (Break)	12	%	ASTM D638
Impact Nominal Value Unit Test Method  Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Flexural Modulus	6800	MPa	ASTM D790
Notched Izod Impact 110 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Flexural Strength	240	MPa	ASTM D790
Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Impact	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Notched Izod Impact	110	J/m	ASTM D256
MPa, Unannealed) 207 °C ASTM D648  Electrical Nominal Value Unit Test Method  Comparative Tracking Index 575 V IEC 60112  Flammability Nominal Value Unit Test Method	Thermal	Nominal Value	Unit	Test Method
Comparative Tracking Index 575 V IEC 60112 Flammability Nominal Value Unit Test Method	Deflection Temperature Under Load (1.8 MPa, Unannealed)	207	°C	ASTM D648
Flammability Nominal Value Unit Test Method	Electrical	Nominal Value	Unit	Test Method
	Comparative Tracking Index	575	V	IEC 60112
Flame Rating UL 94	Flammability	Nominal Value	Unit	Test Method
	Flame Rating			UL 94

1.50 mm	НВ
3.00 mm	НВ

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